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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/682,263

10/09/2003

Aziz Hassan

BSN7

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20238

7590

04/06/2007

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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1733

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

6

Office Action Summary	Application No. 10/682,263	Applicant(s) HASSAN ET AL.	
	Examiner Steven D. Maki	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 22, 23 and 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-21 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>071406, 032904</u> . | 6) <input type="checkbox"/> Other: _____ |

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 11-13 and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11-13 and 17-19 recite "% wax" without specifying that the percent is by weight and thereby renders the claimed amount of wax unclear.

- 3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 4) **Claims 9-21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan (US 3,677,808) and King (US 2,198,776) in view of Sleeter (US 6,277,310) and Song (US 6,010,596) and optionally Borsinger et al (US 2006/0289138).**

Borsinger et al (filed 3-17-03) is available as prior art under 35 USC 102(e) because (1) the filing date for claims 9-21 and 24 is 10-9-03 and (2) claims 9-21 and 24 are not entitled to the benefit of the filing date (10-10-02) of the provisional application filed 10-10-02. Claims 9-21 and 24 are not directed solely to the subject matter described and supported by the provisional application. The subject matter of heating to a temperature between approximately 200 degrees F to approximately 300 degrees F

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was first introduced in this application 10/682,263 and is not reasonably conveyed by provisional application 60/417,620.

It is well known to incorporate wax in a slurry comprising gypsum and water during manufacture of a gypsum board to make the board water resistant as evidenced by Sheridan (col. 1 lines 21-30, example 2) and King (col. 1 lines 7-18, col. 2 lines 50-55, col. 3 lines 1-12, col. 4 lines 46-72). Both Sheridan (col. 1 lines 41-55) and King (col. 1 lines 52-55) disclose the conventional practice of adding the **water proofing material (wax) in the form of an emulsion**. Sheridan teaches heating wax to 200 degrees F and **spraying the molten wax** on the slurry as the other ingredients are being combined and mixed (example 2). King teaches adding **wax powder** to the slurry or **spraying molten wax** into the slurry (col. 3 lines 1-12, col. 4 lines 46-72). Sheridan suggests using the waterproofing material (wax) for particle boards or gypsum boards. King teaches using 0.5 to 15 % by weight wax in the gypsum core. King teaches heating the set board to a temperature above the melting point of the wax to dry the board and fuse the wax and thereby cause it coat the gypsum crystals. With respect to wax, King teaches using paraffin wax or its equivalent such as hydrogenated cocoanut oil (col. 2 lines 17-24). Hence, the state of the art as evidenced by Sheridan and King substantially discloses claimed method of rendering a gypsum product water resistant, except for the specific wax.

As to claims 9-21 and 24, it would have been obvious to one of ordinary skill in the art to use wax such as hydrogenated soybean or hydrogenated palm as the wax in the known gypsum board manufacturing process such that the wax has an iodine value

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between 0 and 30 and a melting point between 120 and 180 degrees F since (1) King, which discloses using wax such as hydrogenated cocoanut oil for rendering the gypsum wallboard water resistant, teaches melting the wax during the drying step, (2) Sleeter, directed to the problem of using wax to improve the water resistance of composite boards such as particle boards, recommends using low iodine value wax such as hydrogenated soybean or hydrogenated palm for enhancing water resistance of the board, (3) Sleeter teaches that (a) the low iodine value is 0-70 preferably 0-30, (b) the low iodine wax (saturated triglyceride material) is a totally renewable resource and contributes virtually no VOCs, and (c) the low iodine value wax may be applied in the form of an emulsion, powder or molten spray and optionally (4) Borsinger et al suggests using low iodine wax comprising triglyceride in a gypsum board in order to improve water resistance (paragraph 17). With respect to Sleeter's teaching to use the low iodine value wax (soybean wax or palm wax) to improve water resistance for boards such as particle boards, it is noted again that Sheridan suggests using the waterproofing material (wax) for particle boards or gypsum boards.

As to the temperature range of 200-300 degrees F, it would have been obvious to one of ordinary skill in the art to heat the gypsum board at a temperature of approximately 200 degree F to approximately 300 degrees F to melt the wax and dry the gypsum board since (1) King teaches heating the gypsum board to melt the wax and dry the board to cause it to coat the gypsum crystals and (2) Song teaches heating a gypsum board such that the core temperature is at least 170 degrees F (e.g. 200 degrees F) to melt wax in the gypsum core and dry the board (col. 10 lines 26-39). The

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optimum melting point of the wax and the optimum temperature for melting the wax and drying the board could have been determined without undue experimentation in view of the teachings of the applied prior art.

As to claims 10-15 and 20, it would have been obvious to one of ordinary skill in the art to use the claimed wax solid since (1) King teaches using 0.5 to 15% by weight wax and applying the wax in the form of a powder and (2) Sleeter teaches using soy wax and applying the wax in the form of a powder.

As to claims 16-19 and 21, it would have been obvious to one of ordinary skill in the art to use the claimed wax emulsion since (1) King and Sheridan teach that it has been previously known to apply wax in the form of an emulsion, (2) King teaches using 0.5 to 15% by weight wax and applying the wax in the form of a powder and (3) Sleeter teaches using soy wax and applying the wax in the form of an emulsion.

As to claim 24, it would have been obvious to one of ordinary skill in the art to add another material such as paraffin wax or hydrophobic agent to the slurry since at least Song suggests using one or more waxes in a board. The term "hydrophobic agent" reads on --wax--.

Remarks

5) Applicant's election with traverse of method of treating gypsum wallboard Group II claims 9-21 and 24 in the reply filed on 1-9-07 is acknowledged. The traversal is on the ground(s) that it would not be unduly burdensome to search the prior art for inventions described in the various claims. This is not found persuasive because the search for the elected Group II, but not the non-elected Groups I, II and IV, requires a

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search for the subject matter of heating to a temperature between approximately 200 degrees F to approximately 300 degrees. Furthermore, the search for non-elected Groups I and IV, but not elected Group II, requires a search for materially different products such as gypsum molds and the search for non-elected Group III, but not elected Group II, requires a search for a materially different product such as a product made by bonding liners to the dried admixture.

The remaining references are of interest.

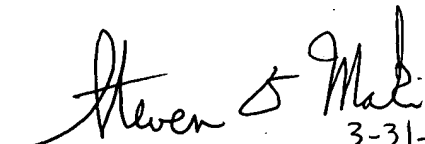
6) No claim is allowed.

7) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki
March 31, 2007


STEVEN D. MAKI
PRIMARY EXAMINER
3-31-07